

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/018038

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ C07D231/22, 231/24, 231/46, 231/50, 231/52, 495/10, 403/12, 417/12, 405/06, 401/06, 403/04, 409/06, 417/04, 409/04, 491/048, 487/10, A61K31/4152, 31/4162, 31/4155, 31/427,

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C07D231/22, 231/24, 231/46, 231/50, 231/52, 495/10, 403/12, 417/12, 405/06, 401/06, 403/04, 409/06, 417/04, 409/04, 491/048, 487/10, A61K31/4152, 31/4162, 31/4155, 31/427,

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CA (STN), MEDLINE (STN), REGISTRY (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | JP 6-287179 A (Yamanouchi Pharmaceutical Co., Ltd.), 11 October, 1994 (11.10.94), & US 5453514 A1 | 1-16 |
| Y | US 2003/0086916 A1 (Goligorsky, Michael S.), 08 May, 2003 (08.05.03), | 1-16 |
| X Y | JP 2003-81830 A (Mitsubishi-Tokyo Pharmaceuticals, Inc.), 19 March, 2003 (19.03.03), (Family: none) | 21-22 1-16 |
| X Y | WO 2003/024446 A (Mitsubishi Pharma Corp.), 27 March, 2003 (27.03.03), (Family: none) | 21-22 1-16 |

Further documents are listed in the continuation of Box C.

See patent family annex.

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| Special categories of cited documents: | |
| "A" | document defining the general state of the art which is not considered to be of particular relevance |
| "E" | earlier application or patent but published on or after the international filing date |
| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) |
| "O" | document referring to an oral disclosure, use, exhibition or other means |
| "P" | document published prior to the international filing date but later than the priority date claimed |
| "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "&" | document member of the same patent family |

Date of the actual completion of the international search
16 February, 2005 (16.02.05)

Date of mailing of the international search report
08 March, 2005 (08.03.05)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/018038

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | JP 3-215426 A (Mitsubishi Kasei Corp.), 20 September, 1991 (20.09.91), (Family: none) | 1-16 |
| Y | JP 7-25765 A (Mitsubishi Chemical Corp.), 27 January, 1995 (27.01.95), & EP 633025 A1 & US 5837723 A1 | 1-16 |
| Y | JP 2-229168 A (Takeda Chemical Industries, Ltd.), 11 September, 1990 (11.09.90), (Family: none) | 1-16 |
| Y | JP 2-229169 A (Takeda Chemical Industries, Ltd.), 11 September, 1990 (11.09.90), (Family: none) | 1-16 |
| Y | Toshio MIYATA et al., Alterrations in nonenzymatic biochemistry in uremia: Origin and significance of "carbonyl stress" in long-term uremic complications, Kidney International, Vol.55(1999), pages 389 to 399 | 1-16 |
| P, Y | JP 2004-300153 A (Tokai University), 28 October, 2004 (28.10.04), | 1-16 |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/018038

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 17-20, 26

because they relate to subject matter not required to be searched by this Authority, namely:

The inventions as set forth in claims 17 to 20 and 26 pertain to methods for treatment of the human body by therapy or methods including such a treatment method and thus relate to a subject matter which this International Searching Authority is not required to search.

2. Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/018038

Continuation of A. CLASSIFICATION OF SUBJECT MATTER
(International Patent Classification (IPC))

Int.Cl⁷ 31/4709, 31/433, A61K31/4439, 31/4355, 31/416, A61P13/12,
3/10, 25/00, 27/02, 27/12, 9/10, 13/00, 25/28, 25/16,
29/00, 19/02, 17/00, 7/08, 13/12, 9/00, 43/00, 39/00,
39/02

(According to International Patent Classification (IPC) or to both national
classification and IPC)

Continuation of B. FIELDS SEARCHED

Minimum documentation searched (International Patent Classification (IPC))

Int.Cl⁷ 31/4709, 31/433, A61K31/4439, 31/4355, 31/416, A61P13/12,
3/10, 25/00, 27/02, 27/12, 9/10, 13/00, 25/28, 25/16,
29/00, 19/02, 17/00, 7/08, 13/12, 9/00, 43/00, 39/00,
39/02

Minimum documentation searched (classification system followed by
classification symbols)

<Subject of search>

Claims 1 and 21 relate to a compound and protein modifier production inhibitor defined by the desired property of "substituent capable of blocking the linkage of vitamin B6 molecule". Although claims 1 and 21 cover all the inhibitors and compounds having the property, only some of the inhibitors and compounds covered by the claims are disclosed within the meaning of PCT Article 5. Thus, it appears that the requirement of support by disclosure in the description within the meaning of PCT Article 6 is not satisfied.

Further, with respect to the language "compound and protein modifier production inhibitor having introduced therein a substituent capable of blocking the linkage of vitamin B6 molecule", even if technical common knowledge at the filing date of this application is taken into account, the scope of compounds and inhibitors having such property cannot be specified. Consequently, claims 1 and 21 also fail to satisfy the requirement of clarify within the meaning of PCT Article 6.

Therefore, search has been carried out on the compounds and inhibitors identified in claims 2-9 and 22-24.